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Test to Detect Dioxin Levels Being Developed Under Technology Transfer Agreement With North Carolina Corp.

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Research Triangle Park, NC.....The U.S. Environmental Protection Agency in Research Triangle Park, NC, announced today that it has signed a Cooperative Research and Development Agreement with Hybrizyme Corporation of Raleigh, N.C. Under the agreement, the EPA and Hybrizyme Corporation will conduct collaborative research to develop a cost effective test to analyze the amount of dioxins found in humans, animals and the environment.

Hybrizyme is developing an inexpensive test that measures the levels of dioxin-like chemicals. Currently, dioxin analysis costs range from $900 to $1,800 per sample and can only be performed in highly specialized laboratories. During a recent dioxin incident in Belgium where citizens were exposed to dioxin-tainted meat, the need for low cost health assessment studies and environmental monitoring was clearly demonstrated. A cost effective test would also enable scientists to expand research efforts to study the health effects of dioxins.

Dioxin is an unintended byproduct in a variety of processes including some forms of chemical manufacturing, incineration of municipal and medical waste, open burning and the manufacture of chlorine-bleached paper products. Exposure to certain dioxins in animals and humans has been associated with biochemical and toxicological effects. EPA is currently in the process of conducting a major reassessment of dioxin science.. EPA scientists are providing much of the data needed to assist in the risk assessment.

"We look forward to this opportunity to collaborate with Hybrizyme," said Mike DeVito, Ph.D., lead scientist for the project at the EPA's National Health and Environmental Effects Research Laboratory. "The

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work with Hybrizyme will allow our lab to do chemical analysis at a much reduced cost, aiding in the amount of research we can conduct to gain further information on the health effects of these chemicals."

Hybrizyme Senior Scientist and project leader, Jeff Willey, Ph.D. adds, "we are excited about using the jointly derived data to advance dioxin testing to a cost-effective, high-throughput format."

Hybrizyme's technology measures levels of dioxin compounds in a sample using a recombinant Ah receptor. The Ah receptor present in humans and animals mediates most, if not all, of the harmful effects associated with exposure to these compounds. Once in the body, dioxin-like compounds bind to Ah receptors and initiate a cascade of biochemical effects leading to toxicological consequences. How tightly or loosely these compounds bind to the Ah receptor is one of the determining factors of their toxicity.

"The Ah receptor is nature's perfect device for testing these sorts of compounds," said Hybrizyme CEO, Randy Allen Ph.D. "The exciting part of this research is the fact that this agreement allows for the use of a genetically engineered Ah receptor as an analytical tool, delivering dioxin analysis in a kit that can be packaged and shipped throughout the world --something that has never been done before."

Larry Fradkin, coordinator of EPA's Federal Technology Transfer Act Program, added, "working with Hybrizyme gives researchers the ability to test a greater number of samples in a relatively short period of time. The reduction in time and increase in sample size, greatly reduces costs normally associated with this type of research. These are important factors that will contribute to furthering research in this area."

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